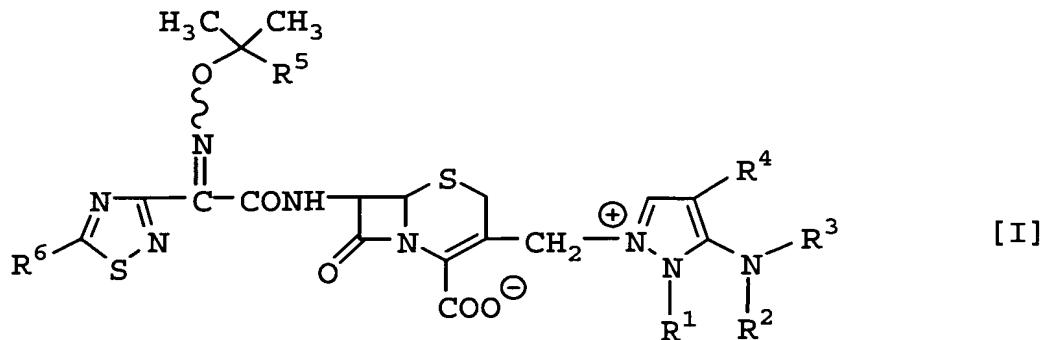


IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A compound of the formula [I]:



wherein

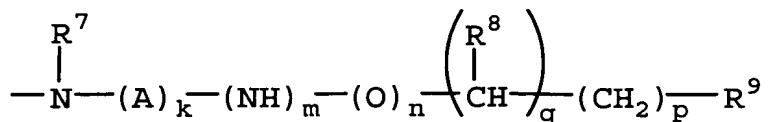
R¹ is lower alkyl, hydroxy(lower)alkyl or halo(lower)alkyl, and

R² is hydrogen, aryl(lower)alkyl or acyl or amino protecting group, or

R¹ and R² are bonded together and form lower alkylene or lower alkenylene;

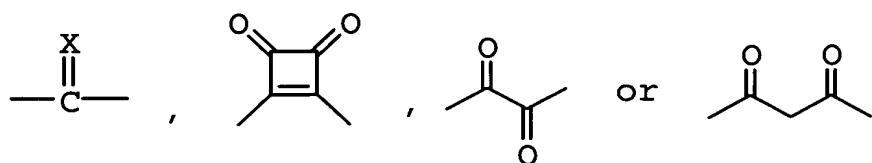
R³ is hydrogen or lower alkyl;

R⁴ is



wherein

A is



wherein X is O or NH,

R⁷ is hydrogen, lower alkyl, aryl(lower)alkyl or acyl or

~~amino protecting group,~~

R^8 is hydrogen or hydroxy,

R^9 is amino, mono or di(lower)alkylamino,

aryl(lower)alkylamino, acyl aminoprotected amine,

guanidino, protected acyl guanidino or saturated

3- to 8-membered heterocyclic group containing 1

to 4 nitrogen atoms optionally substituted by

amino or protected amine, aryl(lower)alkylamino

or acylamino,

k , m , n and q are independently 0 or 1, and

p is 0, 1, 2 or 3;

R^5 is carboxy or an esterified carboxyprotected carboxy; and

R^6 is amino, aryl(lower)alkylamino or acylamino or protected
amine,

or a pharmaceutically acceptable salt thereof.

2. (Currently Amended) The compound of claim 1 wherein

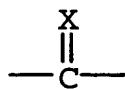
R^1 is lower alkyl or hydroxy(lower)alkyl, and

R^2 is hydrogen, aryl(lower)alkyl or acyl or amino protecting
group, or

R^1 and R^2 are bonded together and form lower alkylene;

R^3 is hydrogen;

A is



wherein X is O or NH;

R⁷ is hydrogen, aryl(lower)alkyl or acyl or amino protecting group;

R⁹ is amino, aryl(lower)alkylamino or acylamino or protected amino; and

p is 0, 1 or 2,

or a pharmaceutically acceptable salt thereof.

3. (Original) The compound of claim 2 wherein R⁸ is hydrogen, or a pharmaceutically acceptable salt thereof.

4. (Original) The compound of claim 1 wherein R¹ is lower alkyl, hydroxy(lower)alkyl or halo(lower)alkyl, and R² is hydrogen, aryl(lower)alkyl or acyl, or R¹ and R² are bonded together and form lower alkylene or lower alkenylene;

R⁵ is carboxy or esterified carboxy;

R⁶ is amino or acylamino;

R⁷ is hydrogen, lower alkyl or acyl; and

R⁹ is amino, mono or di(lower)alkylamino, acylamino, guanidino, acylguanidino or saturated 3- to 8-membered heterocyclic group containing 1 to 4 nitrogen atoms optionally substituted by amino or acylamino,

or a pharmaceutically acceptable salt thereof.

5. (Original) The compound of claim 4 wherein
R¹ is lower alkyl or hydroxy(lower)alkyl, and
R² is hydrogen, aryl(lower)alkyl or acyl, or
R¹ and R² are bonded together and form lower alkylene;
R⁵ is carboxy or esterified carboxy;
R⁶ is amino or acylamino;
R⁷ is hydrogen or acyl; and
R⁹ is amino or acylamino,
or a pharmaceutically acceptable salt thereof.

6. (Original) The compound of claim 5 wherein
R¹ is lower alkyl or hydroxy(lower)alkyl, and
R² is hydrogen, aryl(lower)alkyl, lower alkanoyl or lower
alkoxycarbonyl, or
R¹ and R² are bonded together and form lower alkylene;
R⁵ is carboxy or lower alkoxycarbonyl;
R⁶ is amino, lower alkanoylamino or lower alkoxycarbonylamino;
R⁷ is hydrogen, lower alkanoyl or lower alkoxycarbonyl; and
R⁹ is amino, lower alkanoylamino or lower alkoxycarbonylamino,
or a pharmaceutically acceptable salt thereof.

7. (Original) The compound of claim 6 wherein
R¹ is lower alkyl or hydroxy(lower)alkyl, and
R² is hydrogen, or
R¹ and R² are bonded together and form lower alkylene;

R⁵ is carboxy;

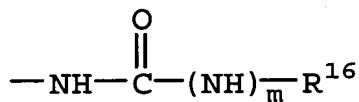
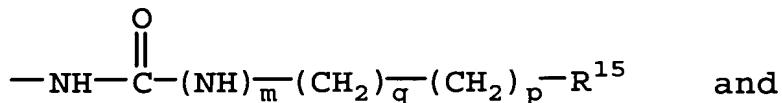
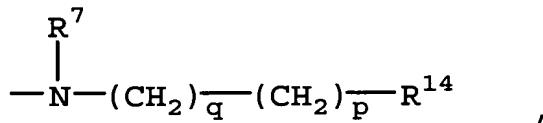
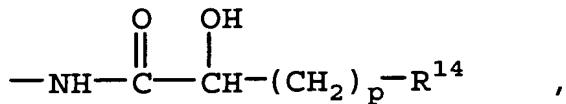
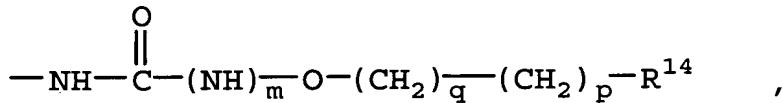
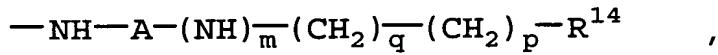
R⁶ is amino;

R⁷ is hydrogen or lower alkanoyl; and

R⁹ is amino,

or a pharmaceutically acceptable salt thereof.

8. (Currently Amended) The compound of claim 1 wherein
R⁴ is selected from the group consisting of



wherein R⁷, A, m, p and q are each as defined in claim 1,

R¹⁴ is amino, mono or di(lower)alkylamino,

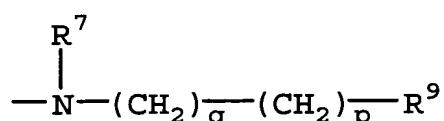
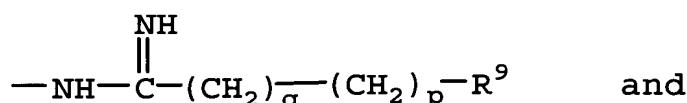
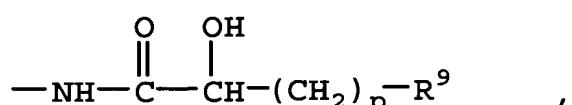
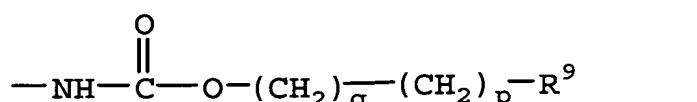
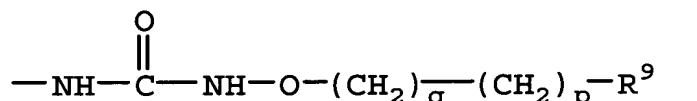
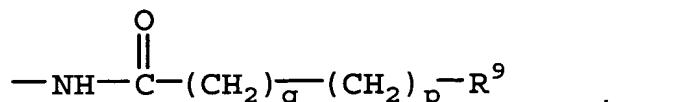
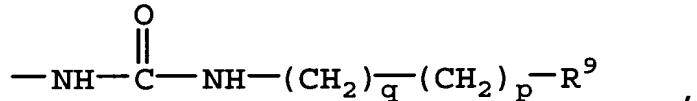
aryl(lower)alkylamino or acylamino or ~~protected amine~~,

R¹⁵ is guanidino or ~~protected~~ aryl guanidino, and

R¹⁶ is saturated 3- to 8-membered heterocyclic group containing

1 to 4 nitrogen atoms optionally substituted by amino, aryl (lower) alkylamino or acylamino or protected amino, or a pharmaceutically acceptable salt thereof.

9. (Currently Amended) The compound of claim 1 wherein R⁴ is selected from the group consisting of



wherein

p is 0, 1 or 2,

q is 0 or 1,

R⁷ is hydrogen, aryl (lower) alkyl or acyl or amino protecting

group, and

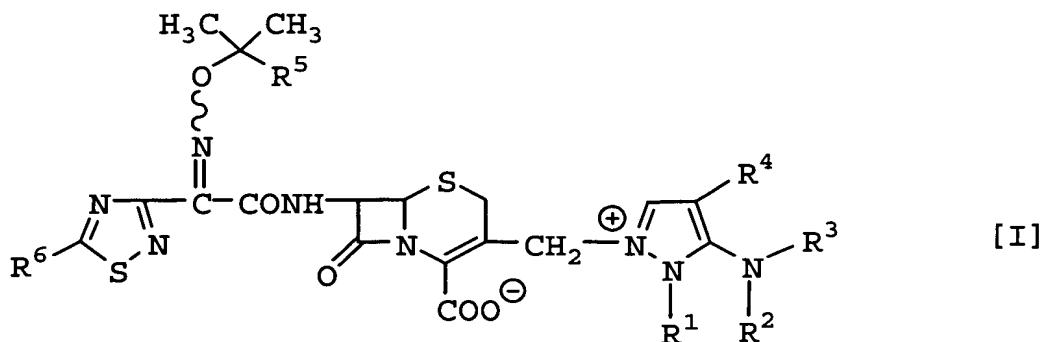
R⁹ is amino, aryl(lower)alkylamino or acylamino or protected
amine,

or a pharmaceutically acceptable salt thereof.

10. (Original) The compound of claim 9 wherein
R⁷ is hydrogen, lower alkanoyl or lower alkoxy carbonyl; and
R⁹ is amino, lower alkanoylamino or lower alkoxy carbonylamino,
or a pharmaceutically acceptable salt thereof.

11. (Original) The compound of claim 10 wherein
R⁷ is hydrogen or lower alkanoyl; and
R⁹ is amino,
or a pharmaceutically acceptable salt thereof.

12. (Currently Amended) A process for preparing a compound of
the formula [I] :



wherein

R¹ is lower alkyl, hydroxy(lower)alkyl or halo(lower)alkyl, and

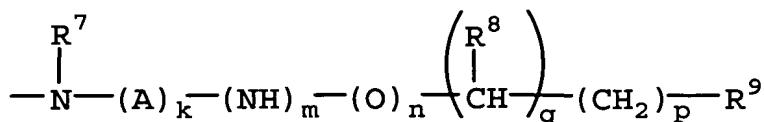
R² is hydrogen, aryl(lower)alkyl or acyl or amino protecting

group, or

R^1 and R^2 are bonded together and form lower alkylene or lower alkenylene;

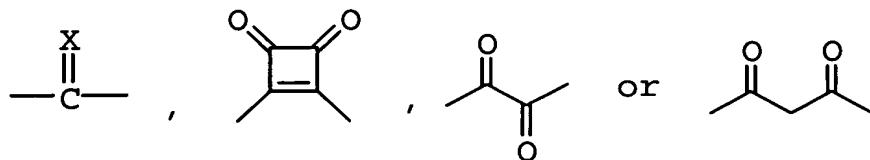
R^3 is hydrogen or lower alkyl;

R^4 is



wherein

A is



wherein X is O or NH ,

R^7 is hydrogen, lower alkyl, aryl(lower)alkyl or acyl or amino protecting group,

R^8 is hydrogen or hydroxy,

R^9 is amino, mono or di(lower)alkylamino, protected amino, aryl(lower)alkylamino, acyl amino, guanidino, protected acyl guanidino or saturated 3- to 8-membered heterocyclic group containing 1 to 4 nitrogen atoms optionally substituted by amino, aryl(lower)alkylamino or acylamino or protected amino,

k , m , n and q are independently 0 or 1, and

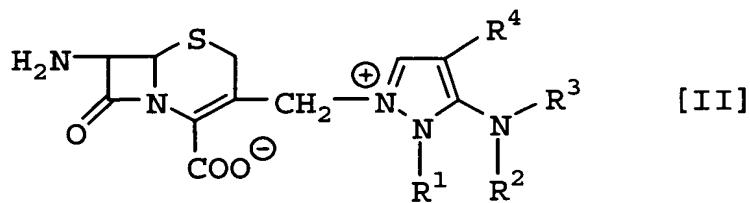
p is 0, 1, 2 or 3;

R^5 is carboxy or an esterified carboxy protected carboxy; and

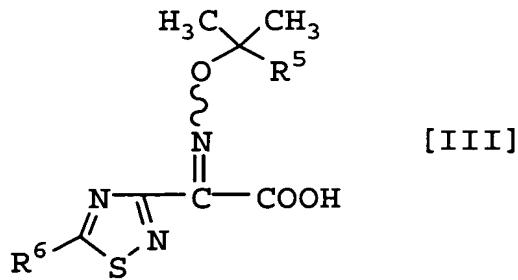
R^6 is amino, aryl(lower)alkylamino or acylamino or protected
amine,

or a salt thereof, which comprises

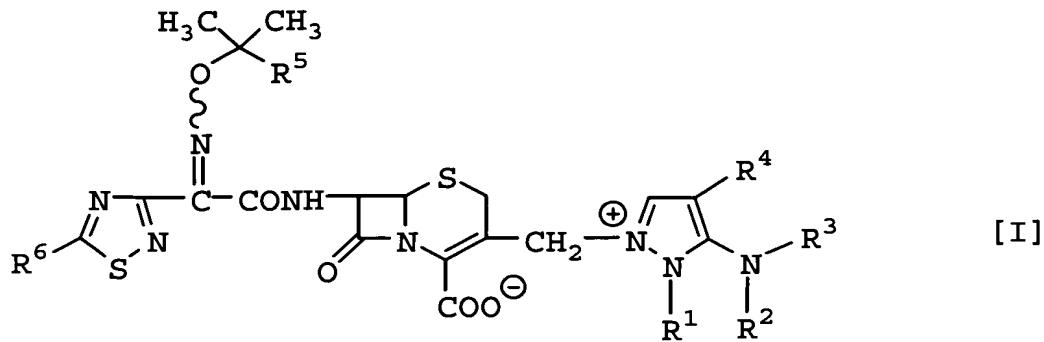
(1) reacting a compound of the formula [III] :



wherein R^1 , R^2 , R^3 and R^4 are each as defined above, or its reactive derivative at the amino group, or a salt thereof with a compound of the formula [III] :

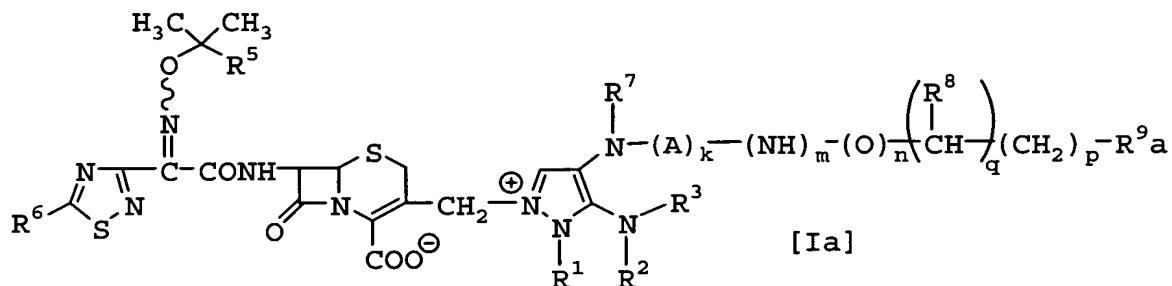


wherein R^5 and R^6 are each as defined above, or its reactive derivative at the carboxy group, or a salt thereof to give a compound of the formula [I] :

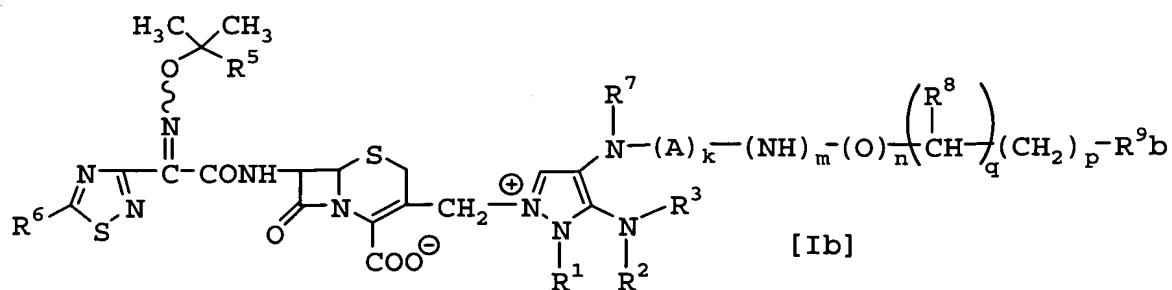


wherein R^1 , R^2 , R^3 , R^4 , R^5 and R^6 are each as defined above, or a salt thereof, or

(2) subjecting a compound of the formula [Ia] :

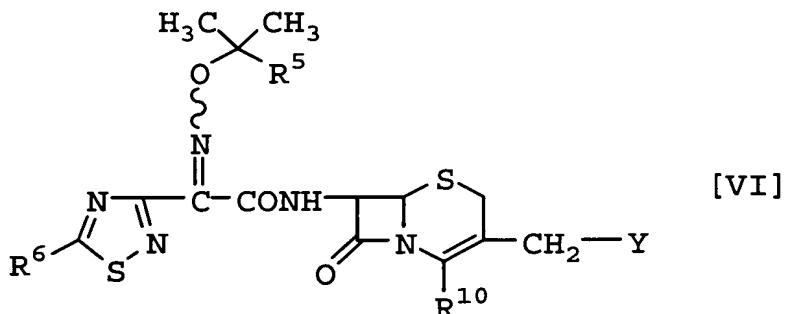


wherein R^1 , R^2 , R^3 , R^5 , R^6 , R^7 , R^8 , A , k , m , n , p and q are each as defined above, and R^9a is aryl(lower)alkylamino or acylamino or protected amino, protected acylguanidino or saturated 3- to 8-membered heterocyclic group containing 1 to 4 nitrogen atoms substituted by aryl(lower)alkylamino or acylamino or protected amino, or a salt thereof to elimination reaction of the amino a protecting group on the amino to give a compound of the formula [Ib] :

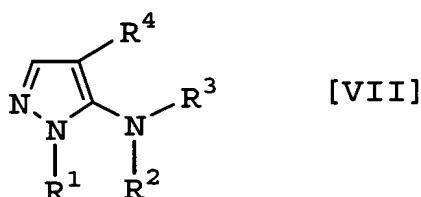


wherein R^1 , R^2 , R^3 , R^5 , R^6 , R^7 , R^8 , A , k , m , n , p and q are each as defined above, and R^9b is amino, guanidino or saturated 3- to 8-membered heterocyclic group containing 1 to 4 nitrogen atoms substituted by amino, or a salt thereof, or

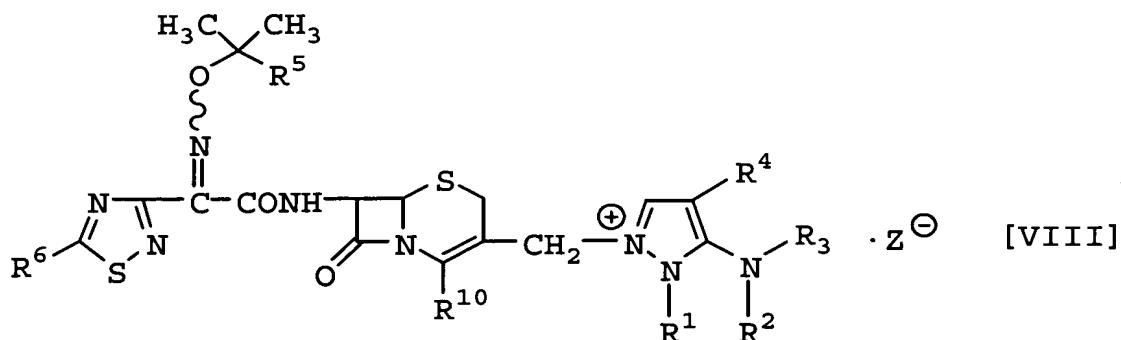
(3) reacting a compound of the formula [VI] :



wherein R^5 and R^6 are each as defined above, R^{10} is an esterified carboxy protected carboxy, and Y is a leaving group, or a salt thereof with a compound of the formula [VII] :

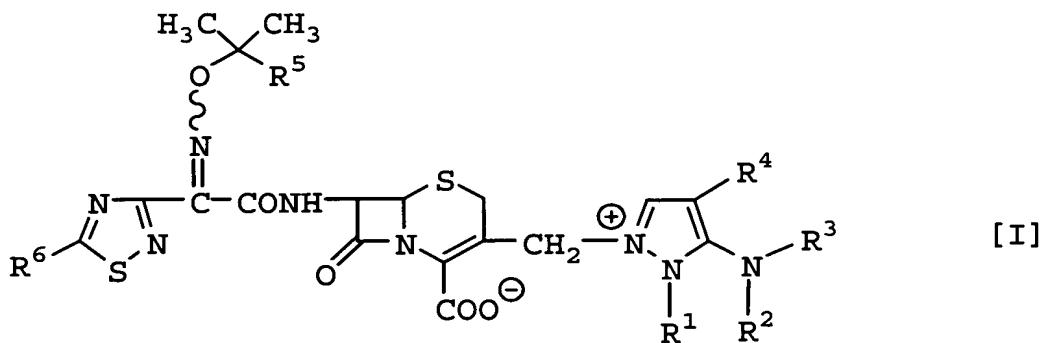


wherein R^1 , R^2 , R^3 and R^4 are each as defined above, or a salt thereof to give a compound of the formula [VIII] :



wherein R^1 , R^2 , R^3 , R^4 , R^5 , R^6 and R^{10} are each as defined above,

and z^- is an anion, or a salt thereof, and
subjecting the compound of the formula [VIII] or a salt
thereof to elimination reaction of the group protecting the
esterified carboxy protecting group, to give a compound of the
formula [I] :



wherein R^1 , R^2 , R^3 , R^4 , R^5 and R^6 are each as defined above, or a salt thereof.

13. (Original) A pharmaceutical composition comprising a compound of claim 1 or a pharmaceutically acceptable salt thereof in admixture with a pharmaceutically acceptable carrier.

Claims 14-16 (Cancelled)

17. (Currently Amended) A method for the treatment of
~~infectious diseases which treating a bacterial infection~~
comprising administering a compound of claim 1 or a
pharmaceutically acceptable salt thereof to human or animals.

18. (New) The compound of claim 1, which is 7β -[(Z)-2-(5-amino-1,2,4-thiadiazol-3-yl)-2-(1-carboxy-1-methylethoxyimino)acetamido]-3-[7-(3-aminopropionamido)-2,3-dihydro-5-(1H-imidazo[1,2-b]pyrazolio)]methyl-3-cephem-4-carboxylate.

19. (New) The compound of claim 1, which is 7β -[(Z)-2-(5-amino-1,2,4-thiadiazol-3-yl)-2-(1-carboxy-1-methylethoxyimino)acetamido]-3-[3-amino-4-(3-aminopropionamido)-2-methyl-1-pyrazolio]methyl-3-cephem-4-carboxylate.

20. (New) The compound of claim 1, which is 7β -[(Z)-2-(5-amino-1,2,4-thiadiazol-3-yl)-2-(1-carboxy-1-methylethoxyimino)acetamido]-3-[3-amino-4-(aminoacetyl)amino-2-methyl-1-pyrazolio]methyl-3-cephem-4-carboxylic acid hydrogen sulfate.

21. (New) The compound of claim 1, which is 7β -[(Z)-2-(5-amino-1,2,4-thiadiazol-3-yl)-2-(1-carboxy-1-methylethoxyimino)acetamido]-3-[3-amino-4-[3-(2-aminoethyl)ureido]-2-methyl-1-pyrazolio]methyl-3-cephem-4-carboxylic acid hydrogen sulfate.

22. (New) The compound of claim 1, which is 7β -[(Z)-2-(5-

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amino-1,2,4-thiadiazol-3-yl)-2-(1-carboxy-1-methylethoxyimino)acetamido]-3-(3-amino-4-guanidino-2-methyl-1-pyrazolio)methyl-3-cephem-4-carboxylic acid hydrogen sulfate.